Serviceanweisung

Service manual

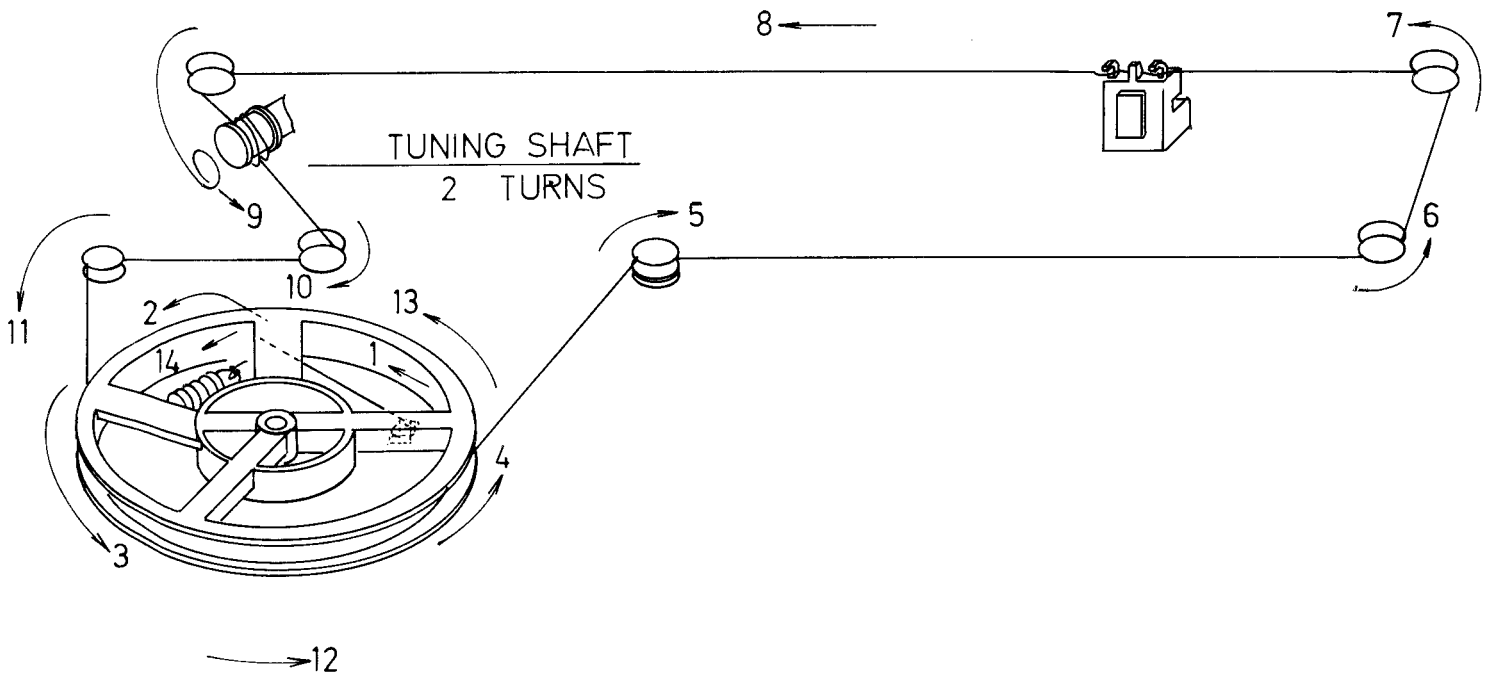
MIDI 2250.5

Midi 2250.5 Ident-Nr. 37 600 00

Plattenspieler SBD 54 Ident-Nr. 37 598 00

AP 26

Seilzugführung
Dial stringing diagram



Hinweise:

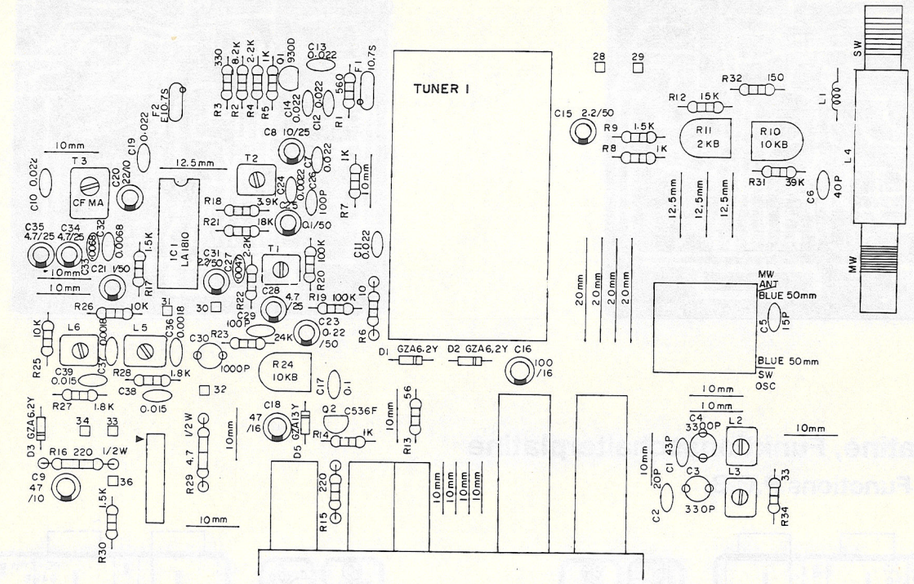
Angegebene Spannungswerte in V, bei FM-Stereo
M ≙ Mono
A ≙ Aufnahmebetrieb

Service Hints:

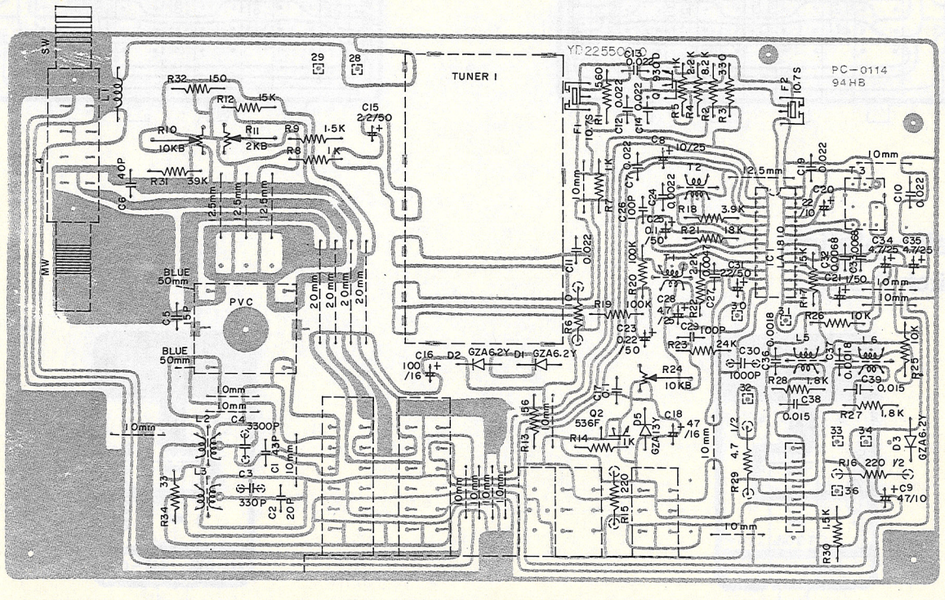
Voltage data in V, FM-Stereo-mode
M ≙ mono
A ≙ tape record-mode

Tunerplatine
Tuner P.C.B.

Bestückungsseite
Top view

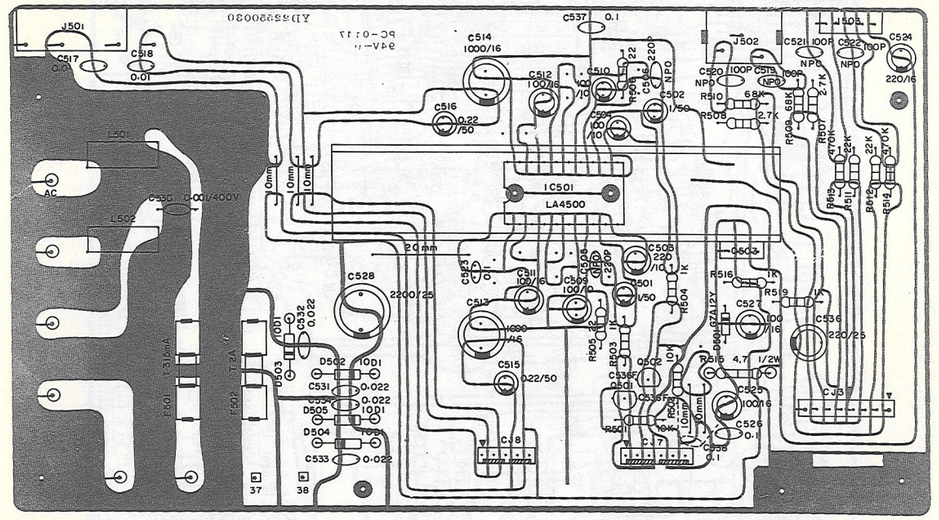


Leiterbahnseite
Bottom view

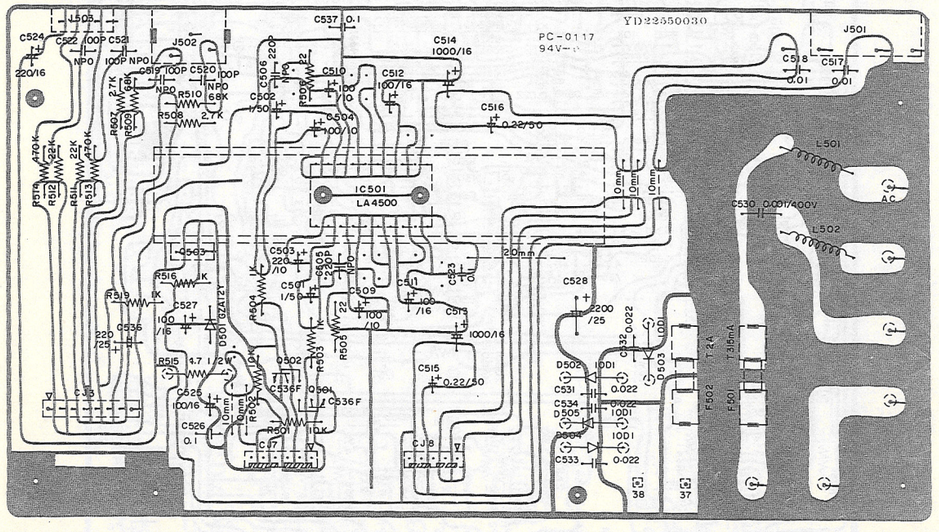


Audio-Netzteilplatine
Audio Power Supply P.C.B.

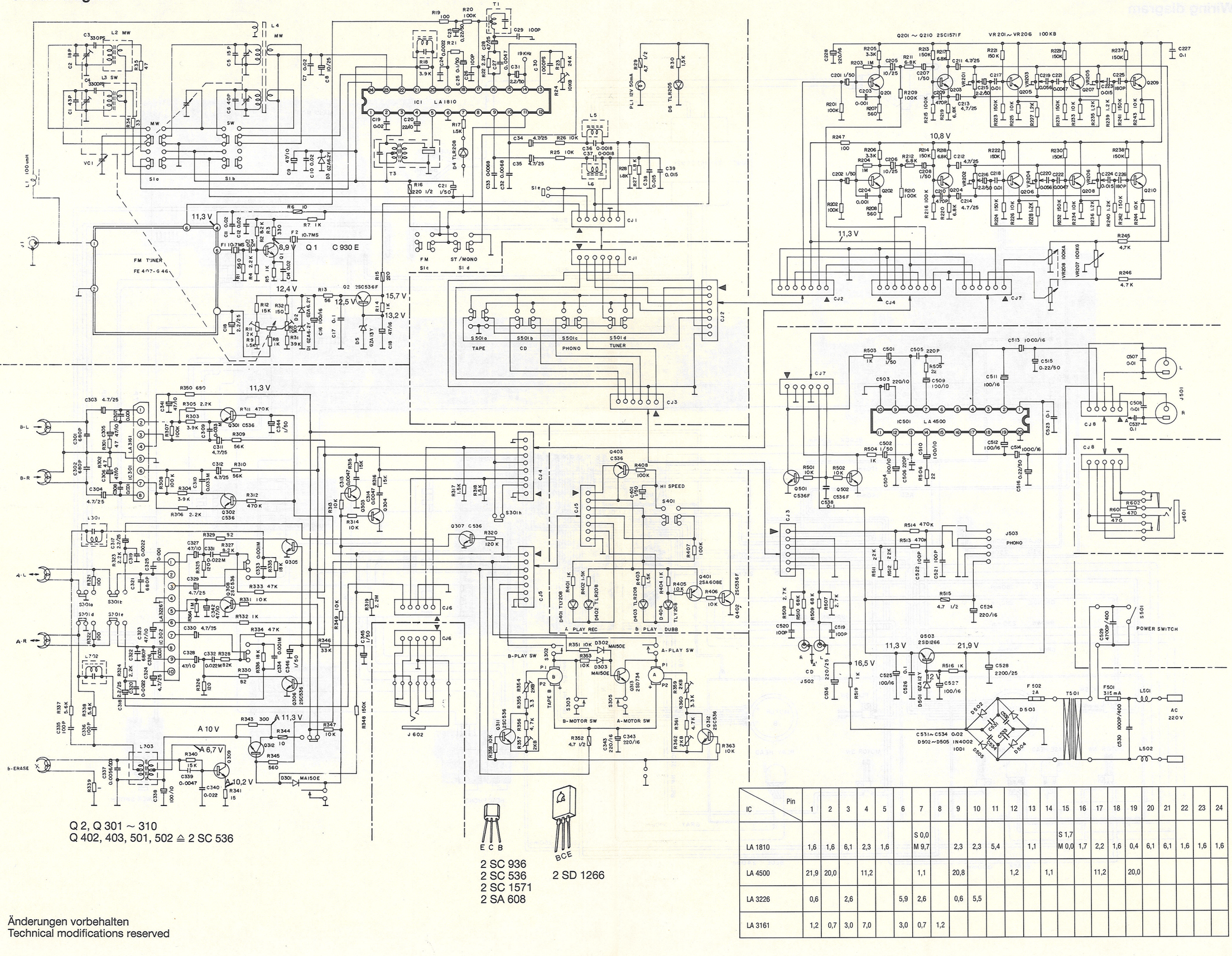
Bestückungsseite
Top view



Leiterbahnseite
Bottom view



Schaltbild
Circuit diagram



Q 2, Q 301 ~ 310
Q 402, 403, 501, 502 ≙ 2 SC 536

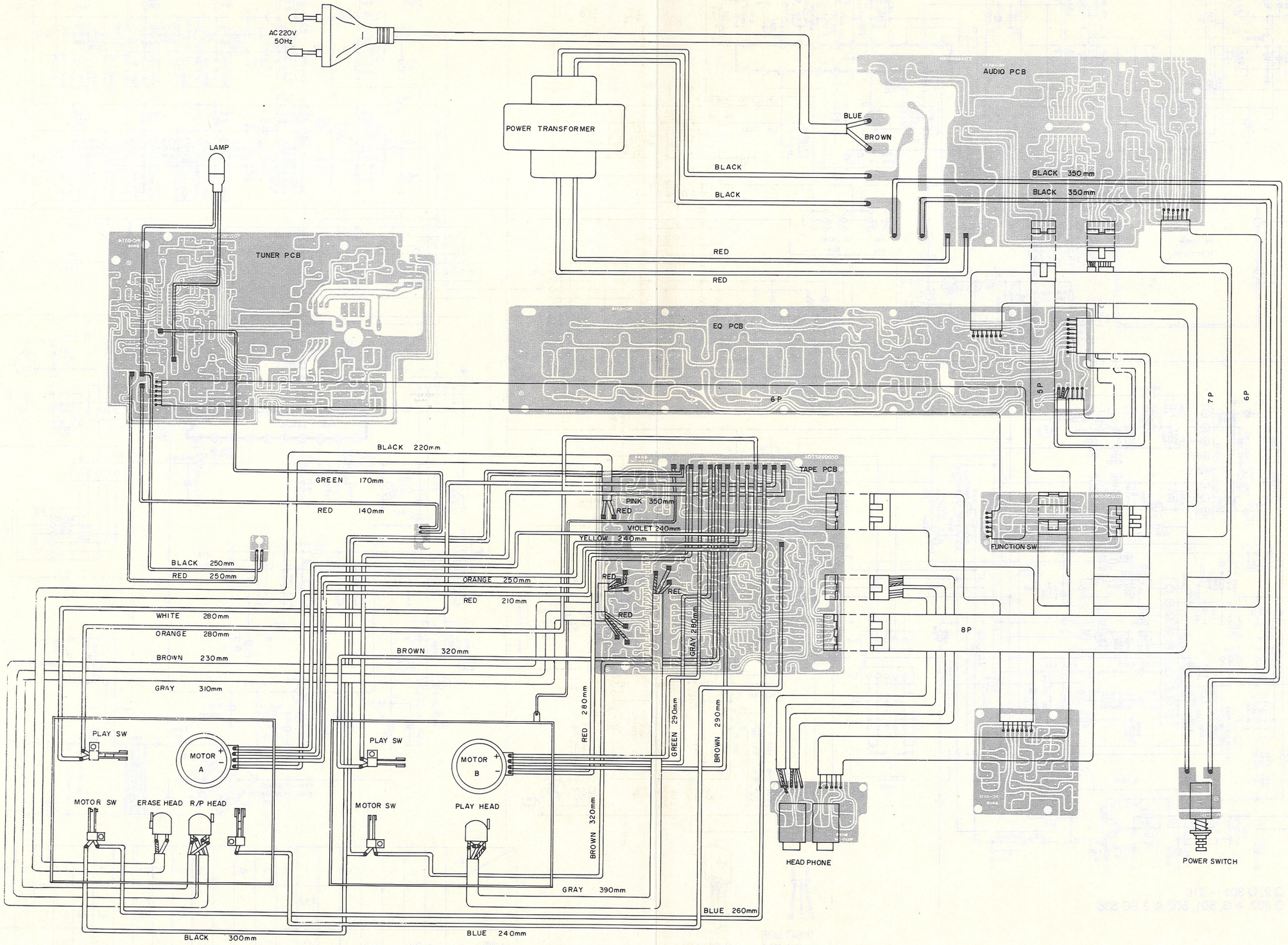
2 SC 936
2 SC 536
2 SC 1571
2 SA 608

2 SD 1266

IC \ Pin	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
LA 1810	1,6	1,6	6,1	2,3	1,6		S 0,0 M 9,7		2,3	2,3	5,4		1,1		S 1,7 M 0,0	1,7	2,2	1,6	0,4	6,1	6,1	1,6	1,6	1,6
LA 4500	21,9	20,0		11,2			1,1		20,8			1,2		1,1			11,2		20,0					
LA 3226	0,6		2,6			5,9	2,6		0,6	5,5														
LA 3161	1,2	0,7	3,0	7,0		3,0	0,7	1,2																

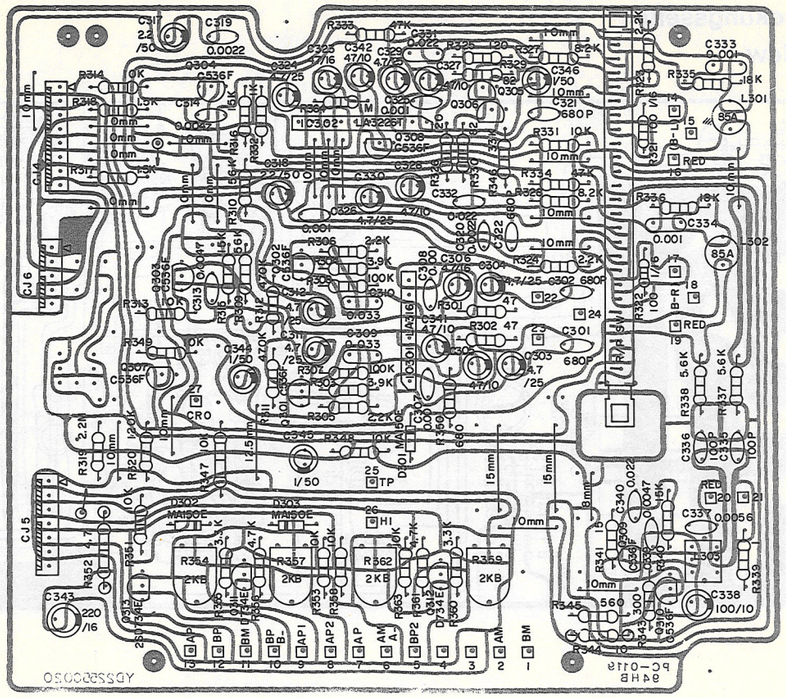
Änderungen vorbehalten
Technical modifications reserved

Verdrahtungsplan
Wiring diagram

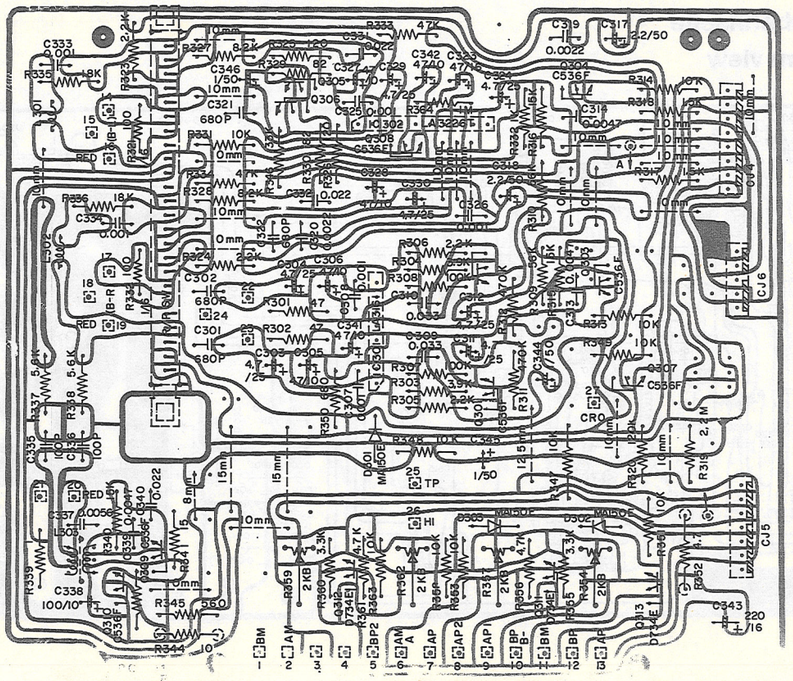


AW-Platine
Tape P.C.B.

Bestückungsseite
Top view

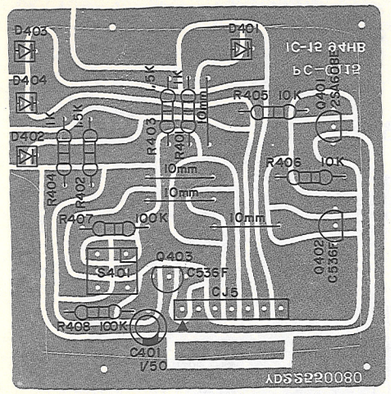


Leiterbahnseite
Bottom view

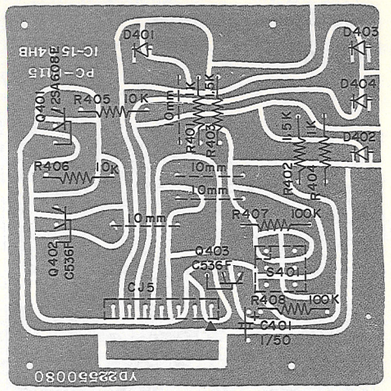


LED-HSD-Platine
LED-HSD P.C.B.

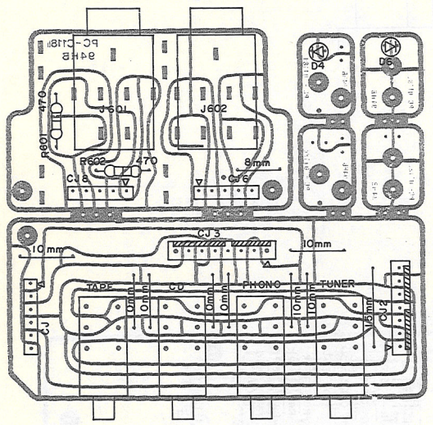
Bestückungsseite
Top view

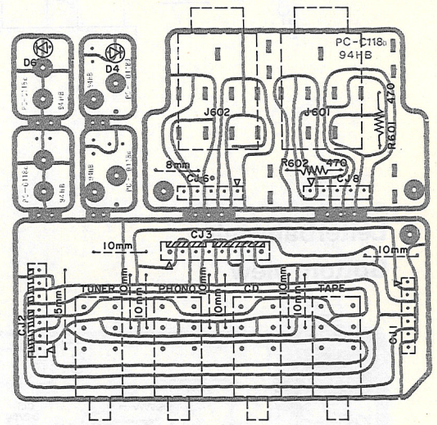


Leiterbahnseite
Bottom view

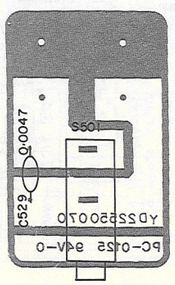


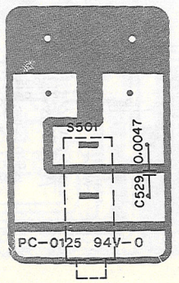
Buchsenplatine, Funktionsschalterplatine
Jack P.C.B., Functions P.C.B.





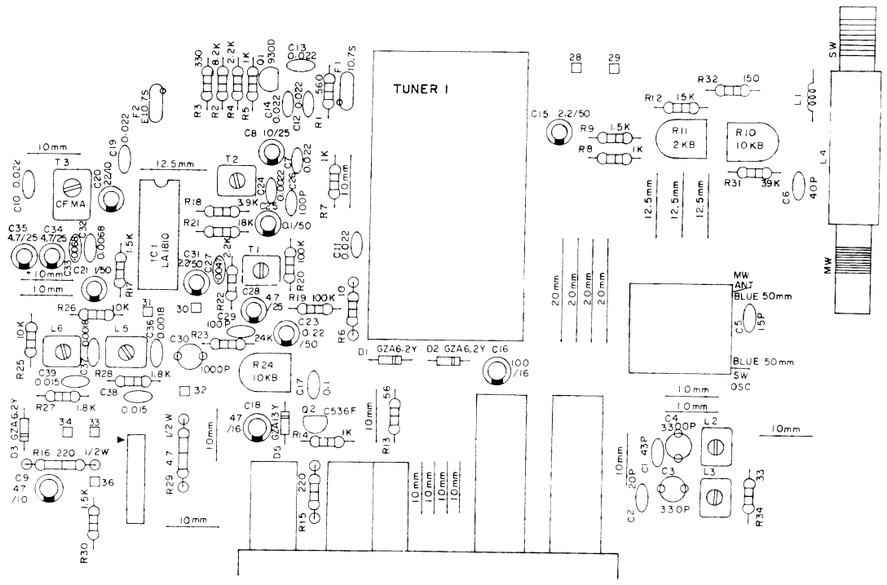
Netzschalterplatine
Power switch P.C.B.



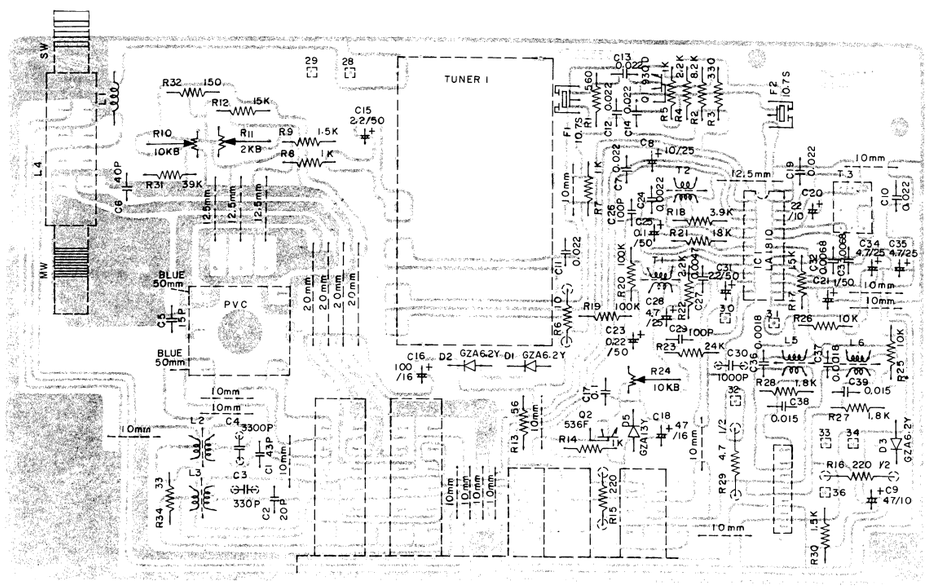


Tunerplatine
Tuner P.C.B.

Bestückungsseite
Top view

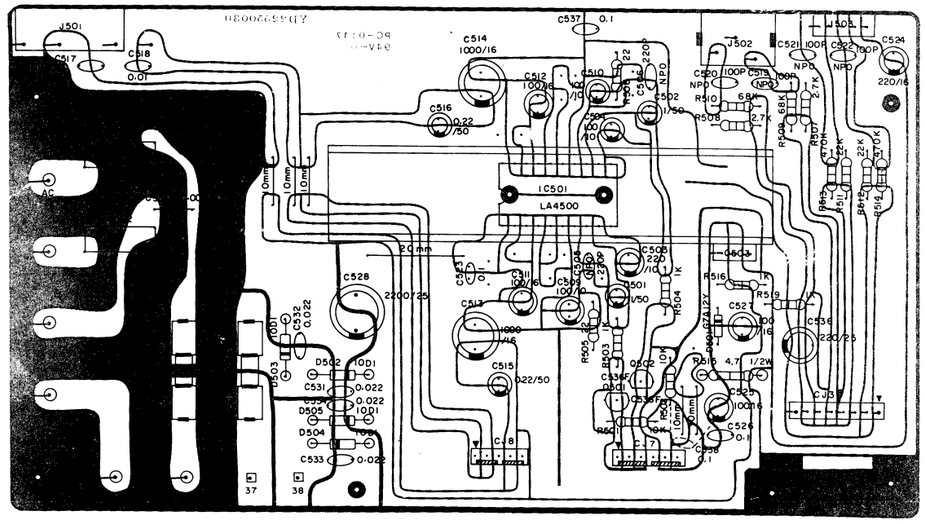


Leiterbahnseite
Bottom view

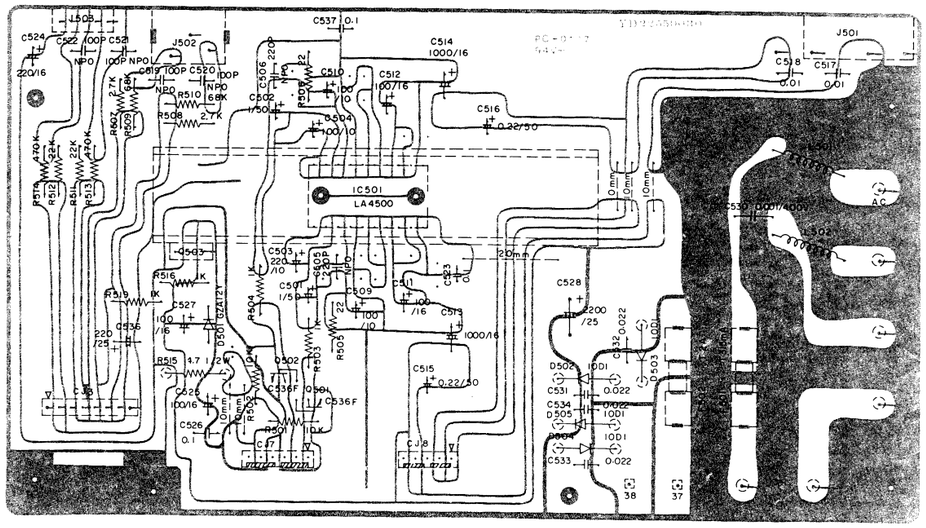


Audio-Netzteilplatine
Audio Power Supply P.C.B.

Bestückungsseite
Top view

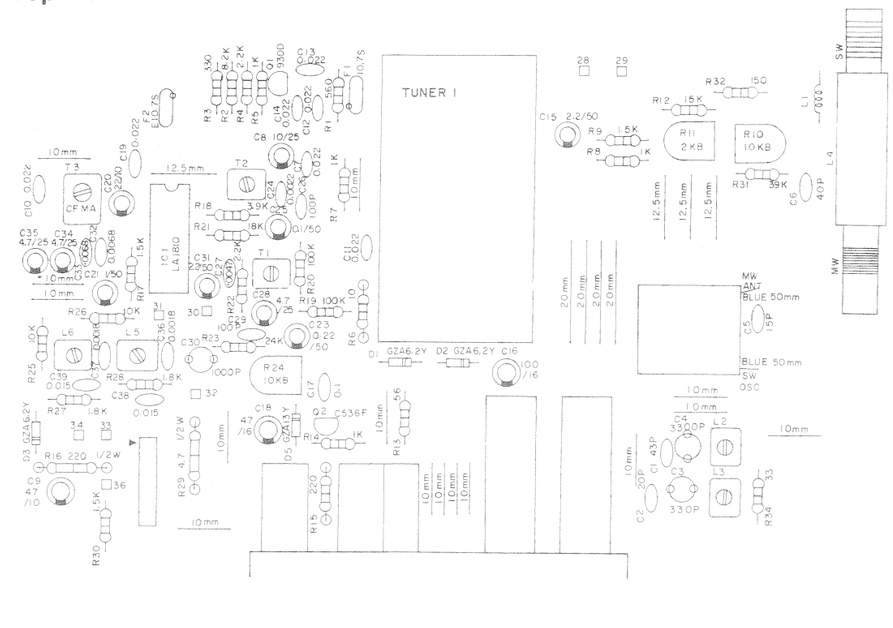


Leiterbahnseite
Bottom view

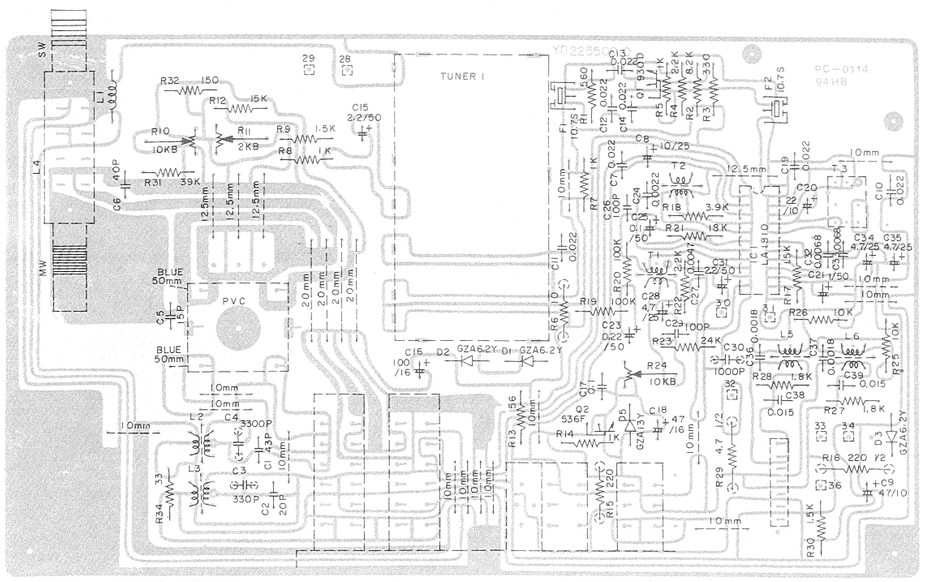


Tunerplatine
Tuner P.C.B.

Bestückungsseite
Top view

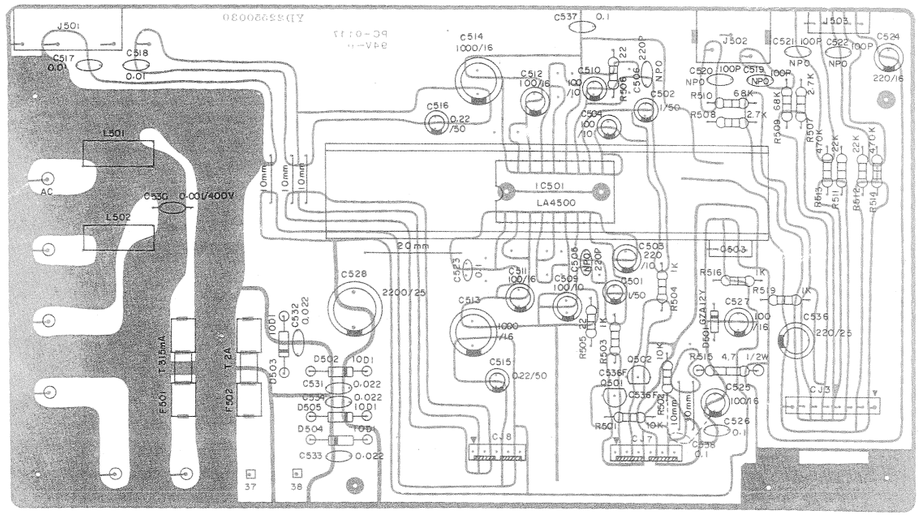


Leiterbahnseite
Bottom view

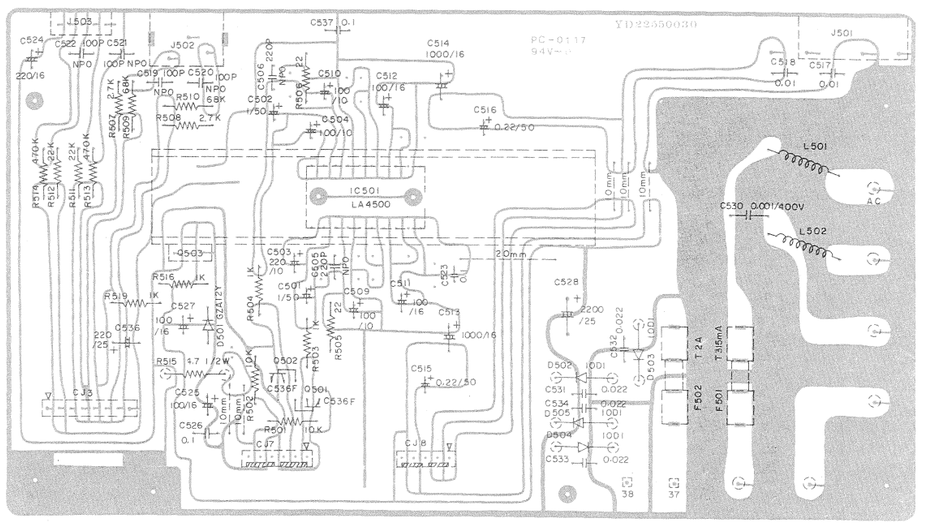


Audio-Netzteilplatine
Audio Power Supply P.C.B.

Bestückungsseite
Top view

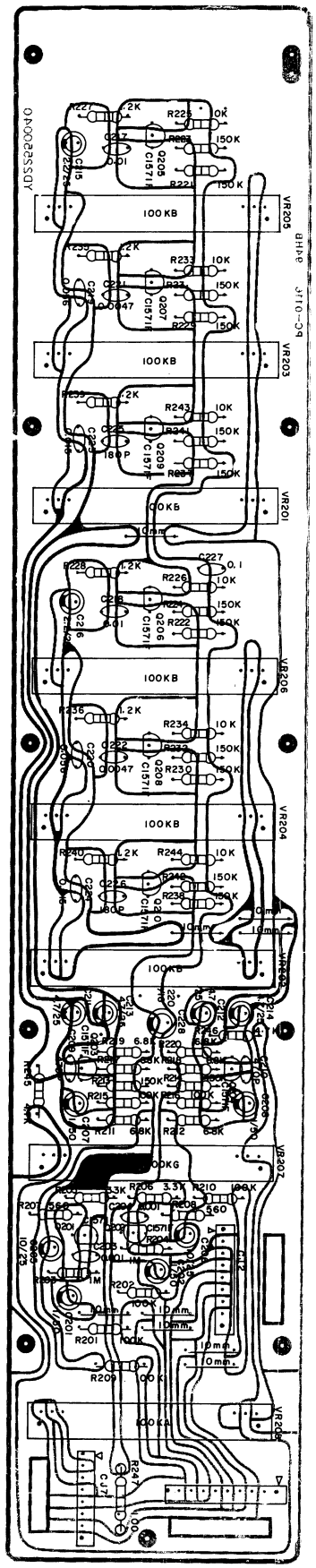


Leiterbahnseite
Bottom view

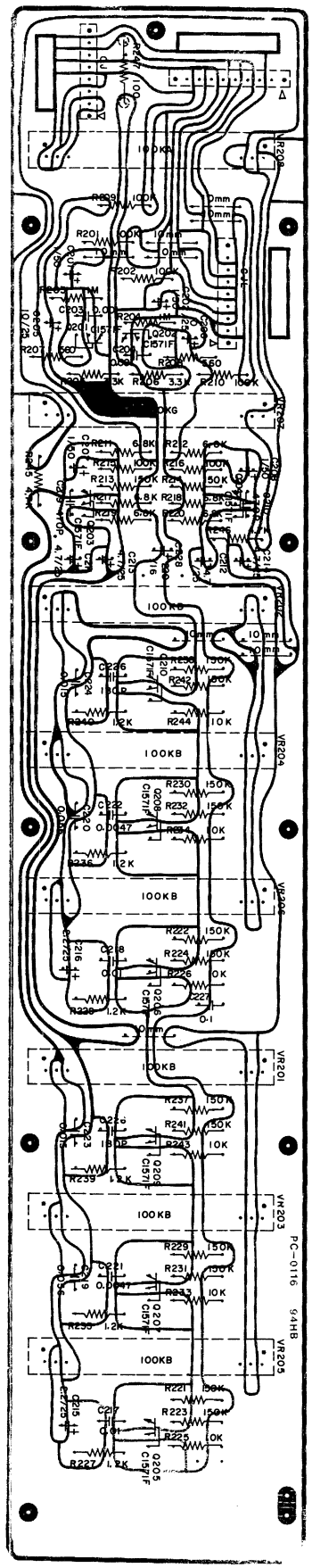


Equalizerplatine
Equalizer P.C.B.

Bestückungsseite/Top view



Leiterbahnseite/Bottom view



Abgleichanweisung
Alignment procedure

Condition

Amplitude Modulation (AM)
1. Modulation : 30% 1 KHz
2. Input level : 74dB/m(5mV/m).
3. Generator output : IRE Loop 24 in (60cm) spacing.

Frequency Modulation (FM)
1. Modulation ; 1000 Hz with 40 KHz
2. Input level : 60dB (1mV).
3. Generator output : To the antenna terminal through 75 ohm unbalanced dummy antenna.

Frequency Modulation (MPX)
1. Modulation : 1000 Hz,L or R channel only.
   Main carrier (L + R) 40 KHz, Dev.
   Sub carrier (L - R) 40 KHz, Dev.
   19 KHz pilot 6 KHz, Dev.

Step	Signal or Sweep Generator		Dial Setting	Output Indicator	Adjustor	Adjust for
	Connection	Frequency		Connection		
	AM IF					
1	Set the function selector to "MW".					
2	To Loop antenna	460 KHz	Low end	IF Sweep generator R 210	T 3	Flat and Max.
	MW RF					
3	SAME AS STEP (2)	508 KHz	Low end	RF Loop ANT. R 210	L 3	513 ± 5 KHz
4	SAME AS STEP (2)	1630 KHz	High end	SAME AS STEP (3)	PVC C 2	1620 ± 10 KHz
5	Repeat steps (3) and (4).					
6	SAME AS STEP (2)	600 KHz	600 KHz	SAME AS STEP (3)	L 4	MAX.
7	SAME AS STEP (2)	1400 KHz	1400 KHz	SAME AS STEP (3)	PVC C 3	MAX.
8	Repeat steps (6) and (7).					
	LW RF					
9	Set the function selector to " SW "					
10	SAME AS STEP (2)	4.8 MHz	Low end	SAME AS STEP (3)	L 2	4.8 ± 0.15MHz
11	SAME AS STEP (2)	12 MHz	High end	SAME AS STEP (3)	PVC C 4	12 ± 0.15 MHz
12	Repeat steps (9) and (10)					
13	SAME AS STEP (2)	5.5 MHz	5.5 MHZ	SAME AS STEP (3)	L 4	MAX.
14	SAME AS STEP (2)	9 MHz	9 MHz	SAME AS STEP (3)	PVC C 1	MAX.
15	Repeat steps (13) and (14).					
	FM IF					
16	Set the function selector to " FM "					
17	Throught dummy ant.	10.7 MHz	Low end	IF Sweep generator R 209	T 2	" S " curve
	FM RF					
18	SAME AS STEP (17)	87.25MHz	Low end	RF Sweep generator R 209	R 11	87.25- 87.55MHz
19	SAME AS STEP (17)	107.5 MHz	High end	SAME AS STEP (18)	R 10	107.5-108.5MHz
20	Repeat steps (18) and (19).					
21	Repeat steps (21) and (22).					
	FM 19 KHz Pilot signal					
22				Frequency counter R 263	R 24	19 ± 0.01 KHz

STEP	INPUT SOURCE		TEST TAPE	Output Indicator / Connection	Adjustor	Adjust for	Note
	Generator: Connection	Generator: Frequency					
HEAD AZIMUTH							
1	Plat back	3000 Hz	MTT-111	For EA counter / Speaker output	VR-359 / 354	3000 Hz	TAPE I/II
2	Plat back	3000 Hz	MTT-111	For EA counter / Speaker output	VR 357 / 362	4800 Hz	TAPE I/II
3			TCC-184C (IEC 1981)	V.T.V.M / Speaker output	Azimuth screw	Max.	TAPE I and TAPE II
REC. / PLAY FREQUENCY RESPONSE (CrO2)							
4	"AUX/CD" at Rear Panel	400 Hz	S4592A	SAME AS STEP 3	Input level	400MV	CrO2 Position
5	Playback(Recorded in step 2)			SAME AS STEP 3	Note the Voltage	11.4 V	

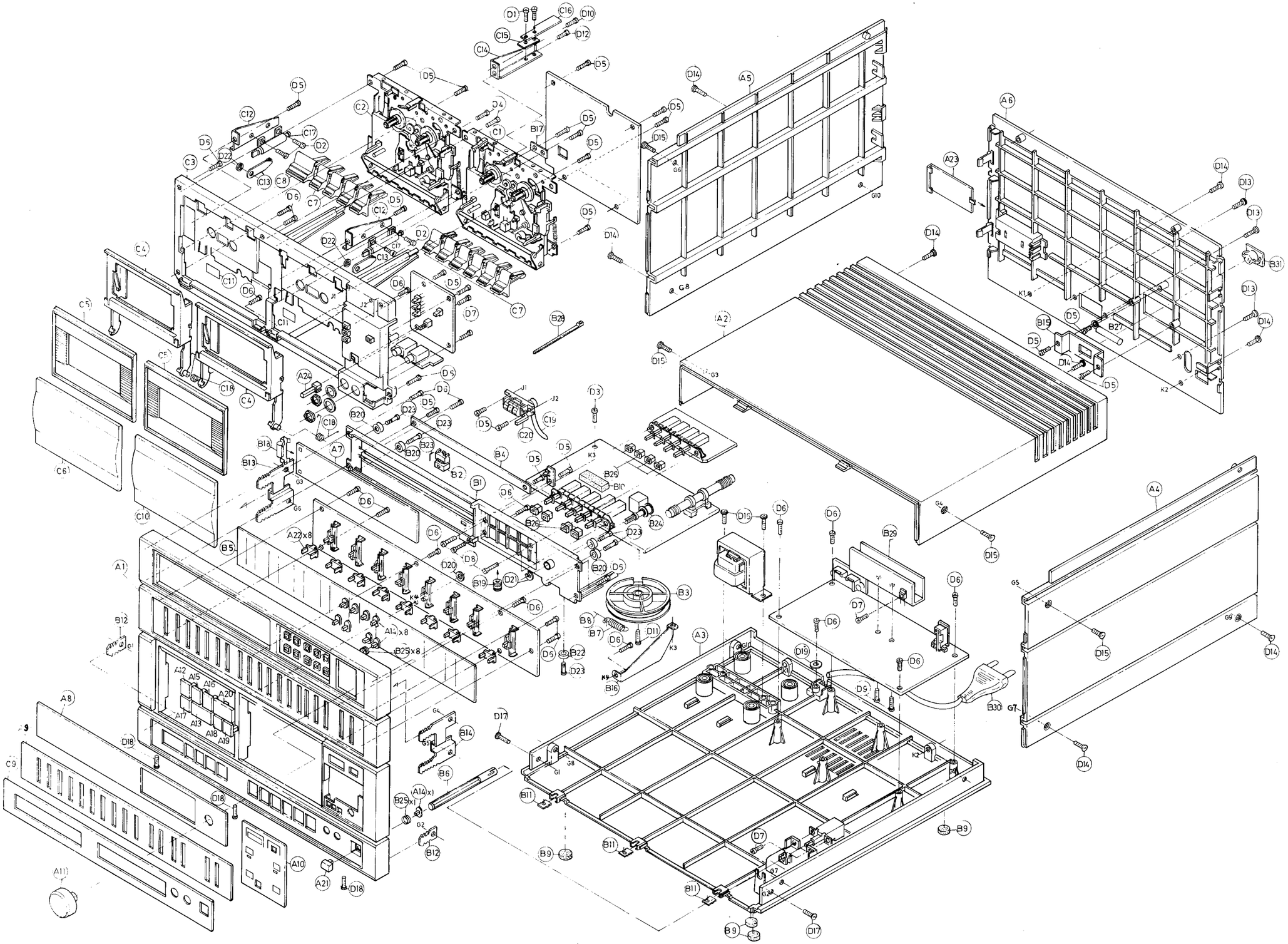
Bestell-Nr./Part No.	Bezeichnung	Description	Position	Preisgruppe
Transistoren				
32 148 00	2 SC 930 E		Q 1	A 2
13 545 00	2 SC 536 F			A 3
32 757 00	2 SD 1266		Q 503	B 2
13 988 00	2 SC 1571		Q 201-210	A 6
21 312 00	2 SA 608			A 4
IC's				
40 036 00	LA 1810		IC 1	B 8
40 037 00	LA 3226 T		IC 302	B 2
32 997 00	LA 3161		IC 301	B 0
29 904 00	LA 4500		IC 501	C 2
Dioden LED				
21 350 00	GZA 6,2 Y		D 1-3	A 3
21 750 00	GZA 13 Y		D 5	A 3
13 950 00	MA 150 E		D 301-303	A 4
26 701 00	GZA 12 Y		D 501	A 3
11 239 00	1 N 4002		D 502-505	A 1
21 533 00	LED gelb (2)	LED yellow	D 402, 403	A 5
29 006 00	LED rot (2)	LED red	D 401, 404	A 3
14 153 00	LED rot (Skala, Stereo)	LED red (tuning, stereo)	D 4, 6	A 7
Spulen, Filter, Dreko/Coils, Filters				
24 375 00	Keramikfilter 10,7 MHz	Filter ceramic 10.7 M	F 1, 2	A 6
34 564 00	Keramikfilter AM	Filter ceramic AM	T 3	B 1
40 038 00	Spule FM Det.	Coil FM det.	T 2	A 4
40 039 00	Spule AM Osz.	Coil AM osc.	L 3	A 4
24 372 00	Spule AM	Coil AM	T 1	A 6
40 040 00	Spule KW Osz.	Coil SW osc.	L 2	A 3
34 320 00	Drossel 100µH	Choke coil 100µH	L 1	A 3
34 323 00	Drossel 39 mH	Choke coil 39 mH	L 5, 6	B 1
40 041 00	Ferritantenne MW-KW	Ant. bar coil MW-SW	L 4	B 4
34 325 00	Spule Löschoszillator	Tape osc. coil	L 303	A 5
34 326 00	Fangspule	Tape trap coil	L 301, 302	A 4
34 324 00	Spule Netz	Coil line filters	L 501, 502	A 1
40 042 00	Drehkondensator	PVC		C 6
32 240 00	Netztrafo	Power transformer		C 9
Schalter, Potis/Switches, variable resistors				
40 043 00	Funktionsschalter (Tuner)	Function switch (tuner)		C 1
40 044 00	Funktionsschalter (Quellen)	Function switch (source)		B 5
40 045 00	Druckschalter HSD	Push switch HSD		B 0
40 006 00	Netzschalter	Power switch	S 501	B 0
34 331 00	A-W-Schalter	R-P switch		A 9
40 046 00	Trimmerpoti 2 K	Semi fixer resistor 2 K		A 2
01 253 00	Trimmerpoti 10 K	Semi fixer resistor 10 K		A 3
40 047 00	Schieberegler Equ. 100 K (6)	Slide var. resistor equ. 100 K	VR 201-206	A 9
40 048 00	Schieberegler Bal. 100 K	Slide var. resistor bal. 100 K	VR 207	A 9
40 049 00	Schieberegler Lautst. 100 K	Slide var. resistor vol. 100 K	VR 208	A 9

Bestell-Nr./Part No.	Bezeichnung	Description	Position	Preisgruppe
37 599 00	Lautsprecherbox schwarz	Speaker black		D 5

Gehäuseteile/Housing parts

37 980 00	Frontblende kompl.	Front panel assembly	A 1	C 5
37 993 00	Gehäusedeckel	Top cabinet	A 2	C 8
37 994 00	Gehäuseboden	Bottom cabinet	A 3	C 6
37 997 00	Seitenteil rechts	Side panel right	A 4	C 1
37 998 00	Seitenteil links	Side panel left	A 5	C 1
37 996 00	Rückwand	Back panel	A 6	C 0
40 002 00	Flutlichtskala	Dial plate	A 7	B 2
40 016 00	Skalenfenster	Dial window	A 8	B 4
40 017 00	Abdeckung EQ	EQ window	A 9	B 5
40 018 00	Abdeckung LED	LED window	A 10	A 8
40 014 00	Knopf Abstimmung	Tuning knob	A 11	A 3
37 985 00	Taste Tape	Function button Tape	A 12	A 3
37 987 00	Taste FM	Function button FM	A 13	A 3
37 991 00	Sicherungshebel	Function button spacer	A 14	A 1
37 984 00	Taste CD	Function button CD	A 15	A 3
37 983 00	Taste Phono	Function button Phono	A 16	A 3
37 986 00	Taste Stereo	Function button Stereo	A 17	A 3
37 988 00	Taste SW	Function button SW	A 18	A 3
37 990 00	Taste MW	Function button MW	A 19	A 3
37 982 00	Taste Tuner	Function button Tuner	A 20	A 3
37 981 00	Taste Netz	Power button	A 21	A 3
40 000 00	Knopf Schieberegler Eq	Knob VR-Eq	A 22	A 3
37 995 00	Deckel Batteriefach	Cover battery	A 23	A 3
40 019 00	Taste HSD	Button HSD	A 24	A 2
40 020 00	Skalenzeiger	Dial pointer	B 2	A 2
40 021 00	Skalenrad	Dial drum	B 3	A 3
40 013 00	Schaltstange Netz	Spacer power	B 6	A 2
21 485 00	Skalenfeder	Dial drum spring	B 7	A 1
40 022 00	Gummifuß	Gum foot	B 9	A 2
40 015 00	Platinenhalter Metall	Holder tuner P.C.B.	B 16	A 6
40 023 00	Druckpulley-Skalenseil	Push pulley	B 19	A 1
12 053 00	Skalenrad (4) 10 mm	Pulley 10 mm	B 20	A 1
40 024 00	Skalenrad 8 mm	Pulley 8 mm	B 22	A 0
40 025 00	Skalenantriebsachse	Tuning shaft	B 24	A 7
37 992 00	Feder Funktionsschalter (9)	Spring function	B 25	A 1
40 026 00	Steckhülse Funktionsschalter (8)	Spacer function switch	B 26	A 1
13 653 00	Buchse FM-Antenne	Jack FM ant.	B 31	B 0
37 999 00	Rahmen CR-Laufwerk	Cass. housing	C 3	B 7
40 001 00	Kassettenfach (2)	Cass. case	C 4	A 7
40 027 00	Kassettenfachdeckel (2)	Cass. deco	C 5	A 7
40 009 00	Kassettenfachfenster A	Cass. window A	C 6	B 4
40 008 00	Kassettenfachfenster B	Cass. window B	C 10	B 4
40 028 00	CR-Taste schmal (10)	Cass. key narrow	C 7	A 3
40 029 00	CR-Taste breit	Cass. key wide	C 8	A 3
40 030 00	Abdeckung Tastenfeld	Cass. key window	C 9	B 2
34 317 00	Federplatte AW	Rec. spring plate	C 16	A 2
21 476 00	Fachdämpfer	Damper assemlby	C 17	B 2
40 012 00	Feder CR-Fach	Spring cass. case	C 18	A 1
21 000 00	Zählwerkriemen	Counter belt	C 19	A 9
34 287 00	Zählwerk	Tape counter	C 20	B 3
29 937 00	Sicherungsring 5 mm	E-Ring 5 mm	D 21	A 0
23 396 00	Klinkenbuchse 6,3 mm (Micro)	Jack 6.3 mm (micro)		B 0
40 031 00	Lautsprecherbuchse doppel	Speaker jack		A 8
40 032 00	Stecker 5pol. Phono	5-P connector		A 3
40 033 00	Chinchbuchse doppel	RCA jack		A 8
40 034 00	Skalenlampe 12 V 50 mA	Lamp 12 V 50 mA		A 3
13 986 00	Klinkenbuchse 6,3 mm (Head)	Jack 6.3 mm (head)		B 0
40 035 00	FM-Tuner FE 407-G 46			D 5
40 003 00	HF-Platine kompl.	HF P.C.B. assembly		E 6
40 007 00	Equ.-Platine kompl.	Equ. P.C.B. assembly		D 6
40 010 00	Netz-NF-Platine kompl.	Power audio P.C.B. assembly		E 0
40 011 00	AW-Platine kompl.	R/P P.C.B. assembly		D 6
40 005 00	LED-HSD Platine kompl	LED HSD P.C.B. assembly		C 1
40 004 00	Buchsenplatine (Micro Head)	Jack P.C.B. assembly		B 7

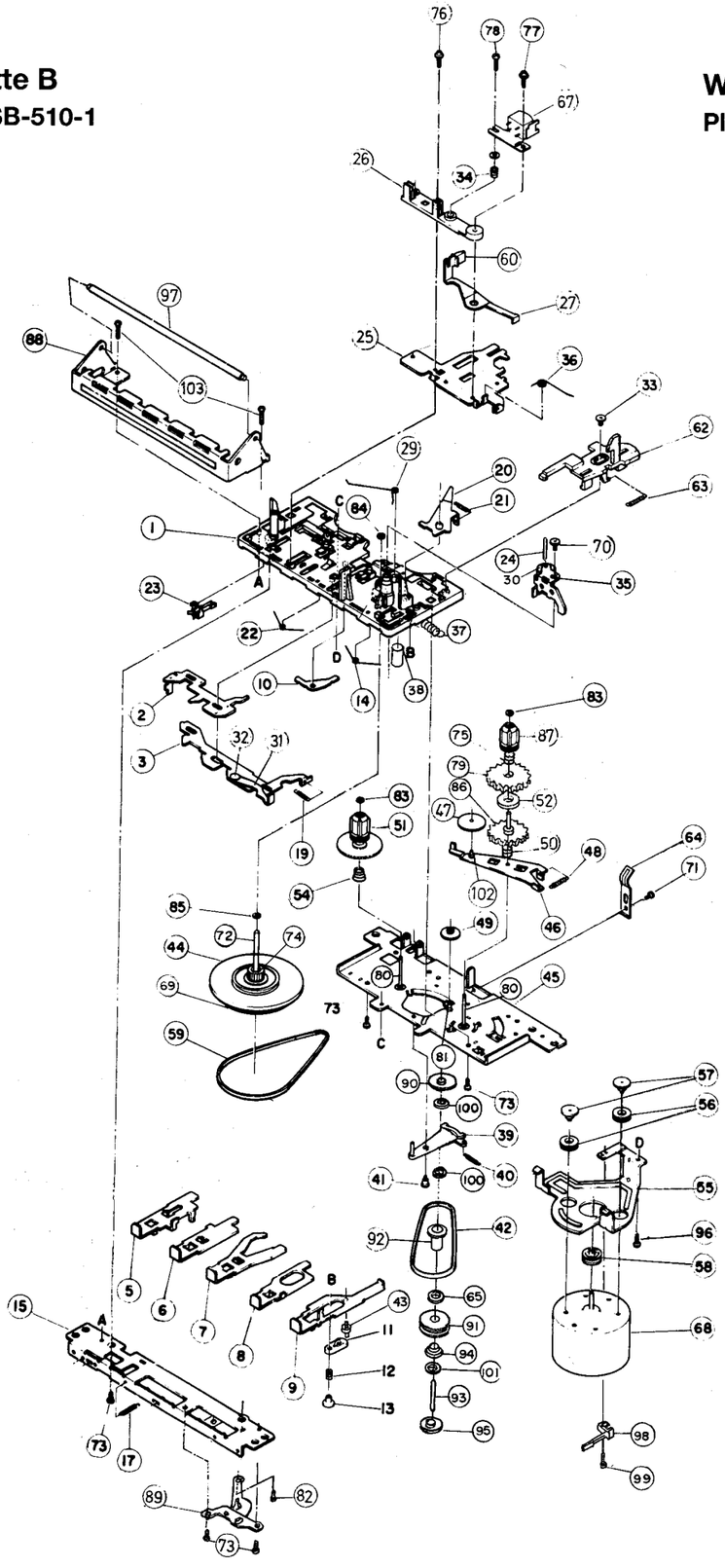
Explosionsdarstellung
Exploded view



Explosionsdarstellung Cassettenmechanik
Exploded view cassette mechanism

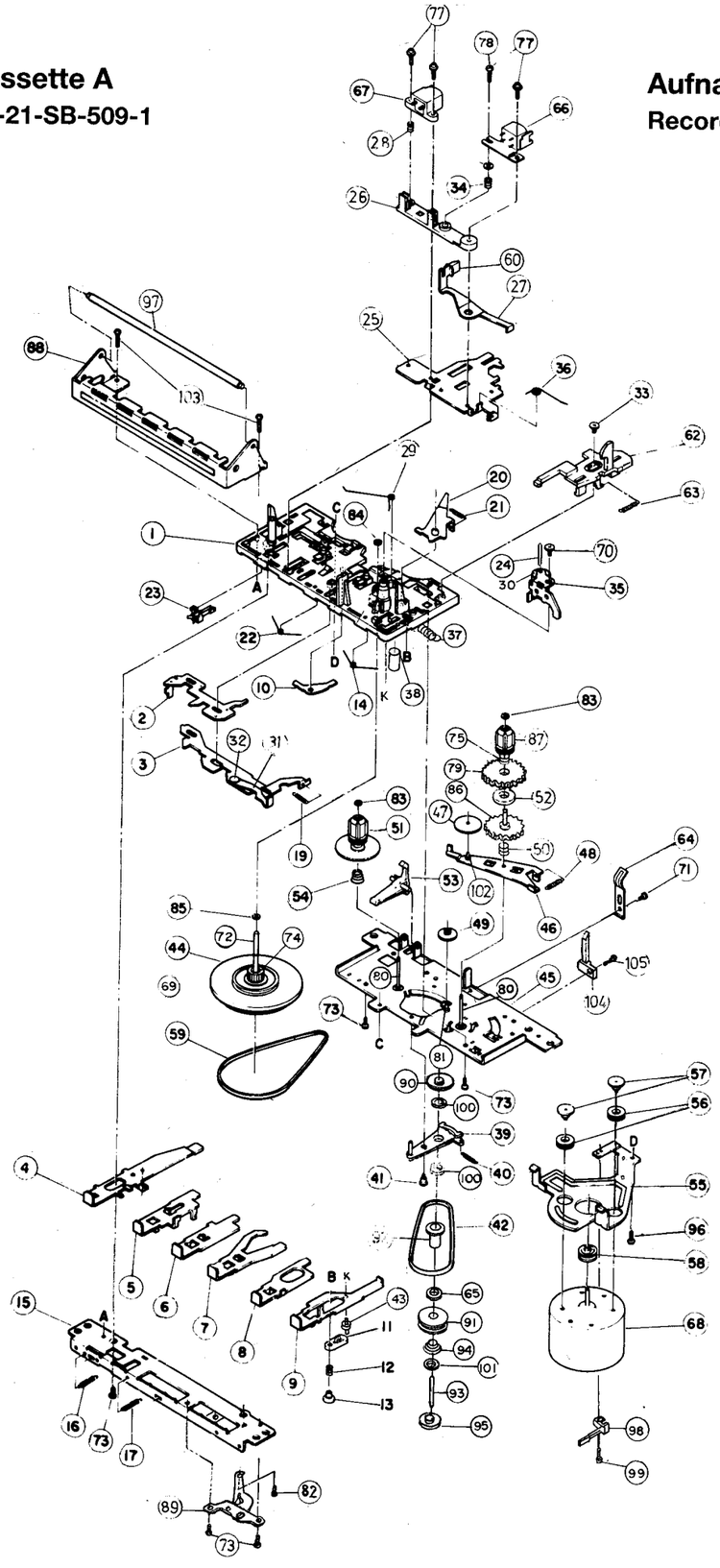
Cassette B
TN-21-SB-510-1

Wiedergabe
Playback



Cassette A
TN-21-SB-509-1

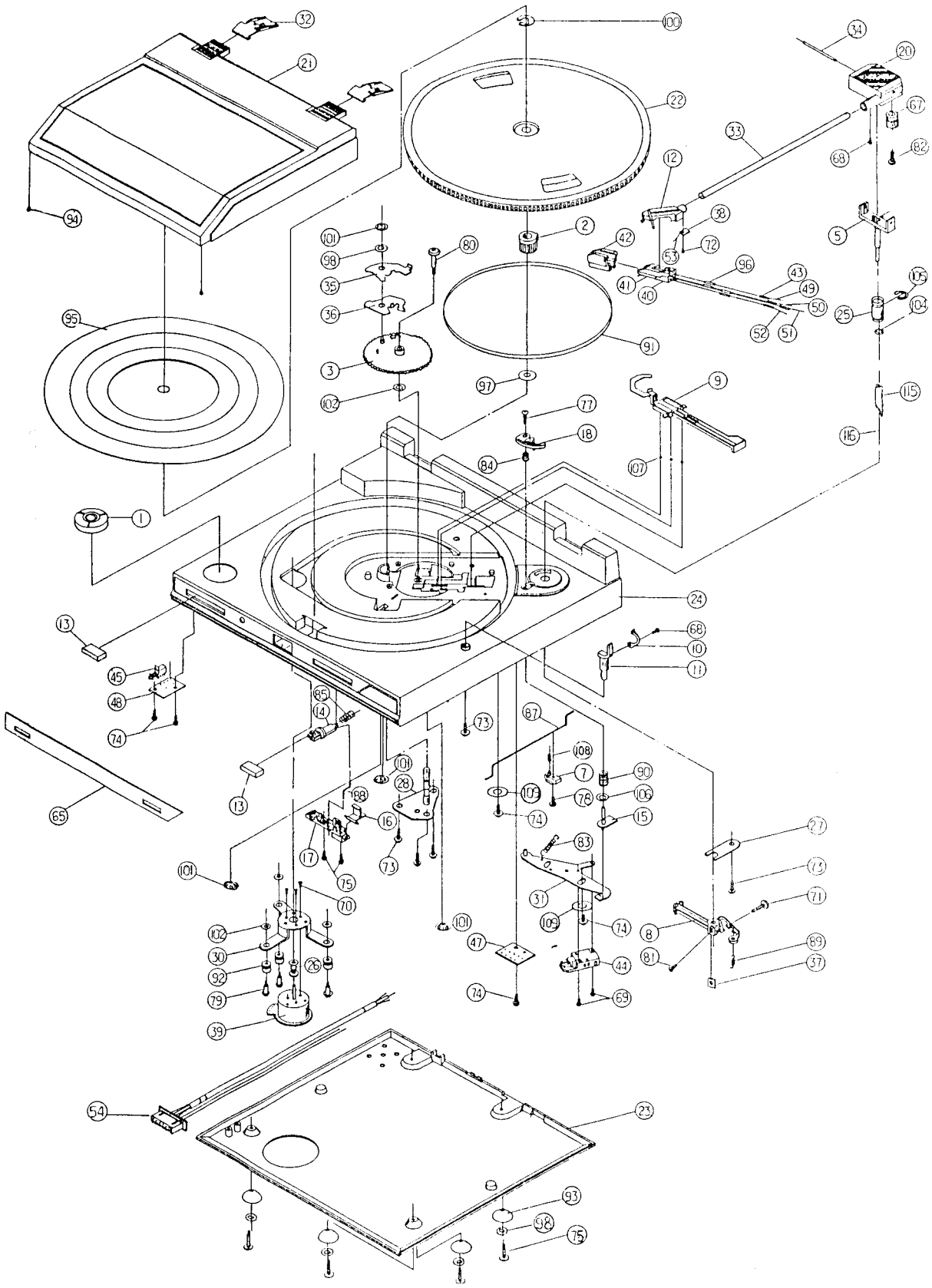
Aufnahme/Wiedergabe
Record/Playback



Bestell-Nr./Part No.	Bezeichnung	Description	Position	Preisgruppe
40 050 00	**Cassettenmechanik A/W**	**Cassette mechanism Rec./PB**		E 2
40 051 00	**Cassettenmechanik Wiedergabe**	**Cassette mechanism playback**		E 0
32 420 00	Pausenrasthebel	Pause lever	11	A 5
32 421 00	Feder Pausenrasthebel	Pause lever spring	12	A 3
32 422 00	Stopper Pausenrasthebel	Pause stopper	13	A 2
32 423 00	Feder Tastenhebel (Stop, Pause)	Button lever spring (pause, stop)	14	A 2
32 424 00	Feder Aufnahmehebel	Record lever spring	16	A 3
32 425 00	Feder Starthebel	Play button lever spring	17	A 3
32 426 00	Feder Auslösehebel	Actuation spring	19	A 3
32 427 00	Feder Hebel	Auto lever spring	21	A 3
32 428 00	Feder Tastenhebel (Vor-, Rücklauf)	Button lever spring (FF, rewind)	22	A 3
32 874 00	Mikroschalter Play	Leaf switch	23	A 6
32 430 00	Kopfträger	Head base	26	A 9
32 474 00	Kopfträger Wiedergabe	Headbase playback	26	A 9
32 431 00	Stophebel kpl.	Sensing plate assembly	27 + 60	B 0
32 432 00	Feder Löschkopf	Spring erase head	28	A 3
32 433 00	Feder Kopfträgerplatte	Head panel spring	29	A 3
32 434 00	Schraube BA-Rolle	Screw pinch roller	33	A 2
32 435 00	Feder A/W-Kopf	Spring R/P head	34	A 3
32 436 00	Bandandruckrolle kpl.	Pinch roller assembly	35 + 30 + 24	B 6
32 437 00	Feder BA-Rolle	Pinch roller spring	36	A 3
34 347 00	Feder Auslösehebel	Spring actuator lever	37	A 1
32 438 00	Rutschkupplung kpl.	Clutch arm assembly	39	B 5
32 439 00	Feder Rutschkupplung	Clutch arm spring	40	A 3
32 440 00	Schraube Rutschkupplung	Clutch arm screw	41	A 2
34 205 00	Riemen Rutschkupplung	Clutch arm belt	42	A 4
32 442 00	Schwungmasse	Flywheel assembly	44 + 69 + 72 + 74 + 85	C 2
32 444 00	Zwischenradzahnradarm	Take-up gear plate	46	B 0
32 445 00	Zwischenzahnrad	Take-up gear	47	A 5
32 446 00	Feder Zwischenzahnrad	Take-up gear spring	48	A 3
32 447 00	Zahnrad Vorlauf	FF gear	49	A 5
32 448 00	Feder Wickelteller rechts	Back tension spring right	50	A 3
32 449 00	Wickelteller links	Supply reel		B 2
32 450 00	Wickelteller rechts	Take-up reel		B 2
32 451 00	Aufnahmesperrhebel	Record safety lever	53	A 5
32 452 00	Feder Wickelteller links	Back tension spring left	54	A 3
32 453 00	Gummipuffer Motor	Motor rubber	56	A 2
32 454 00	Schraube Motor	Motor collar screw	57	A 2
32 876 00	Motorpulley	Motor pulley	58	A 5
32 456 00	Antriebsriemen	Main belt	59	B 4
40 052 00	Gleithebel Eject	Eject slide lever	62	A 2
32 458 00	Feder Hebel Eject	Eject slide lever spring	63	A 3
32 459 00	Cassettenandruckfeder	Pack spring	64	A 5
34 348 00	Wiedergabekopf	Play head	67	C 6
34 349 00	A/W-Kopf	R.P. head	66	C 6
24 513 00	Löschkopf	Erase head	67	B 9
34 350 00	Motor	Motor	68	C 7
32 460 00	Sicherungsscheibe Zahnrad	Polyslider washer gear	82	A 0
32 461 00	Sicherungsscheibe Wickelteller	Polyslider washer reel	83	A 0
32 462 00	Sicherungsscheibe Schwungmasse	Polyslider washer flywheel	84	A 0
32 463 00	Microschalter Start	Leafswitch play	98	A 9
29 703 00	Bandsortenschalter	Feat switch	104	A 6

Explosionsdarstellung Plattenspieler

Exploded view player



Bestell-Nr./Part No.	Bezeichnung	Description	Position	Preisgruppe
37 598 00	**Plattenspieler kpl. SBD 54**	**Record player cpl. SBD 54**		
32 817 00-	Zentrierstück	RPM adaptor	1	A 2
32 818 00-	Kurvenrad	Cam gear	3	A 9
32 819 00-	Tonarmlager	Rotary shaft set	5	A 3
40 053 00-	Führungshalter	Pendulum	7	A 2
32 820 00-	Rücksetzhebel	Return link	8	A 3
32 821 00-	Schaltschieber	Starting lever	9	A 4
32 822 00-	Clip Tonarmstütze	Pick-up cramper	10	A 0
32 823 00-	Tonarmstütze	Pick-up stand	11	A 1
32 824 00-	Tonarmkopf	Headshell	12	A 3
32 825 00-	Knopf Taste (2)	Plastic knob	13	A 4
32 826 00-	Achse Knopf	Knob shaft	14	A 2
32 827 00-	Druckplatte Lift	Oil shaft	15	A 2
40 061 00-	Pendelknopf	Pendulum knob	16	A 3
32 828 00-	Achsenhalterung	Press set	17	A 2
32 829 00-	Liftbügel	Lifter	18	A 2
32 830 00-	Tonarmhalterung	Tonearm rear set	20	A 6
32 831 00-	Abdeckhaube	Dust cover	21	C 1
32 832 00-	Plattenteller kpl.	Platter	22+2	C 3
32 833 00-	Gehäuseboden	Bottom plate	23	B 8
32 834 00-	Gehäuseoberteil	Panel	24	D 1
32 835 00-	Lagerhülse	Tonearm shaft set	25	A 5
40 054 00-	Preßplatte	Press plate	27	A 2
32 837 00-	Plattentellerlager	Steel plate	28	A 3
40 055 00-	Pendelplatte	Pendulum plate	31	B 2
32 838 00-	Haubenscharnier	Steel plate	32	A 5
32 839 00-	Tonarmrohr	Tonearm tube	33	A 7
32 840 00-	Stift	Pin	34	A 0
32 841 00-	Abschaltklinke A	Friction link	35	A 1
32 842 00-	Abschaltklinke B	Actuating link	36	A 2
32 843 00-	Gewindeplatte	Fixing plate	37	A 0
32 844 00-	Massekontakt	Ground sheet	38	A 1
32 845 00-	Motor kpl.	Motor	39	C 5
32 846 00-	Keramiksystem	Cartridge ceramic	40	B 6
32 847 00-	Abtastnadel	Stylus	41	B 3
32 848 00-	Nadelschutz	Stylus cover	42	A 3
32 850 00-	Mikroschalter	Micro switch	44	B 0
32 852 00-	Schalterplatine Lift kpl.	Switch P.C.B.	48/45	B 0
32 853 00-	Tonarmleitung	Tonearm wire	49–53	A 5
32 854 00-	Anschlußkabel	Connector 5 P	54	B 1
32 855 00-	Frontblende Player	Front panel	65	B 3
32 856 00-	Zugfeder	Spring	83	A 1
32 857 00-	Feder Liftbügel	Spring	84	A 0
32 858 00-	Feder Achse	Spring	85	A 0
32 859 00-	Liftstange	Pendulum	87	A 3
32 860 00-	Feder Knopfrastung	Steel cramper	88	A 0
32 861 00-	Feder Rücksetzhebel	Spring	89	A 0
32 862 00-	Feder Druckplatte	Spring	90	A 1
32 863 00-	Antriebsriemen	Belt	91	B 1
32 864 00-	Gehäusefuß	Rubber foot	93	A 2
32 865 00-	Plattentellerbelag	Rubber mat	95	B 6
32 866 00-	Lagerscheibe	Washer	97	A 1
32 867 00-	Scheibe Klinke	Washer	98	A 0
32 868 00-	Sicherungsring Teller	E-Ring washer	100	A 0
32 869 00-	Sicherungsring Klinke	Retaining clip	101	A 0
32 870 00-	Sicherungsring Lager	Washer	104	A 0
32 871 00-	Sicherungsring Lager	Washer	105	A 0
32 872 00-	Kugel	Steel ball	107	A 0
32 873 00-	Feder Liftstange	Spring	108	A 0